



Dr Gary Geernaert
Director
Climate and Environmental Sciences Division
DOE Biological and Environmental Research
13th April 2017

REF: Earth System Grid Federation (ESGF) Proposal Plan (Dean Williams *et al.*)

Dear Dr Geernaert,

We wholeheartedly endorse the Earth System Grid Federation (ESGF) Proposal Plan by Dean Williams and co-authors. The Plan proposes a coherent strategy for the continuation and expansion of this internationally recognized program. Dean and his team are international leaders in the Scientific Focus Area of Climate Change Data Management. Over the past two decades, they have enabled a broad international community of Earth system researchers to make significant progress in the field of climate research. The efforts of Dean and his team provide the foundation for a significant number of international assessments, including all phases (1-5) of the Coupled Model Intercomparison Project (CMIP). These projects constitute much of the scientific backbone of all 5 assessment reports of the United Nations' Intergovernmental Panel on Climate Change (IPCC), dating from 1990 to 2013. The team is currently preparing for the sixth phase (CMIP6), which will inform the next IPCC Assessment, due for publication in 2020.

The DOE-led Earth System Grid Federation (ESGF) has moved the climate science community towards a fully distributed computational working environment. This has significantly accelerated progress in climate modeling research. This rapidly advancing collaborative way of working underpins the Program for Climate Model Diagnosis and Intercomparison's (PCMDI) multi-model research, and enables PCMDI to assume a leadership role in fostering scientific collaboration via community-based numerical experimentation (such as CMIP and related efforts).

Via a longstanding collaboration strengthened through proximity, PCMDI has worked with the ESGF team to ensure that carefully developed data standards are applied in CMIP. These standards enable unprecedented data discovery, accessibility and usability. The collaboration between LLNL computer and climate scientists has guided the development of software infrastructure tuned to the needs of the community. This close working relationship has been a key to the success of CMIP. More recently, it has been key to the successful development of obs4MIPs, input4MIPs and the PCMDI metrics package (PMP), all of which will ultimately be available via ESGF. Progress on all of these fronts is transforming the ability of climate scientists to address important questions, both at LLNL and throughout the international research community.

ESGF is essential to our mission and we look forward to a strong continuing collaboration with Dean's outstanding team.

Yours sincerely,

A handwritten signature in blue ink that reads "Karl E. Taylor".

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